

## Execution of Function

[0193] FIG. 30 is a diagram illustrating a function executed by the control unit 115 according to the third embodiment in response to an input of a roll-up operation. As indicated by “before start to roll up” in FIG. 30, in a state in which a plurality of file icons 73 are displayed on the flexible display 15, a user rolls up the information processing device 10-3.

[0194] The control unit 115, as indicted by “start, to roll up” in FIG. 30, causes the display positions of the plurality of files 73 to move close to each other according to the sum of the amounts of curve sumR on each side that gradually changes, thereby expressing the degree of collection of the plurality of files 73.

[0195] Further, the user rolls up the information processing device 10-3 to cause the information processing device 10-3 to be in a state of being rolled up one turn or more as indicated by the “rolled-up state” in FIG. 30. The recognition unit 110 calculates the sum of the amounts of curve on each array of the flexible display 15 and, if each of the two largest sumR among the calculated sumR is greater than or equal to the threshold  $v$ , determines that the information processing device 10-3 is in a rolled-up state, and thus recognizes that a roll-up operation is input.

[0196] Next, the control unit 115 executes a function (conversion function) of collecting the plurality of file icons 73 into a single folder according to the recognition of the input of the roll-up operation by the recognition unit 110.

[0197] In addition, the control unit 115 displays a folder icon 75 indicating a collection of a plurality of files on the flexible display 15 as indicated by “after roll-up operation” in FIG. 30.

[0198] Hereinabove, a specific function executed in response to an input of a roll-up operation has been described. Note that when the information processing device 10-3 is rolled up one turn or more, parts of the information processing device 10-3 overlap one another, and the overlapping portion is pressed with a finger as indicated by “rolled-up state” in FIG. 30. Thus, when the information processing device 10-3 has a structure with a touch panel, if the information processing device 10-3 is rolled up and a partially overlapping portion is pressed with a finger, it is concerned that a touch operation may unintentionally be detected.

[0199] Accordingly, when it is recognized that the information processing device 10-3 is rolled up one turn or more, for example, the control unit 115 may temporarily turn off the touch panel function (touch operation detection function). Alternatively, the control unit 115 may turn off the touch operation detection function for only a part of the areas of the touch panel. A case where the function of only a part of the areas of the touch panel is turned off will be hereinafter described with reference to FIG. 31.

[0200] FIG. 31 is a diagram illustrating that the control unit 115 according to the third embodiment turns off the touch operation detection function according to the rolled-up state. As shown in FIG. 31, the information processing device 10-3 has a structure in which the flexible touch panel 16, the flexible display 15, and the curvature sensor 20 are stacked. As shown to the left of FIG. 31, when a part of the information processing device 10-3 is rolled up, the curvature sensor 20 arranged on the top side of the information processing device 10-3 and the curvature sensor 20h arranged on the bottom side thereof detect a signal sequence of the amount of curve R as shown to the right of FIG. 31.

[0201] The recognition unit 110 recognizes, on the basis of the amount of curve R acquired from each curvature sensor 20, recognizes which area of the information processing device 10-3 is rolled up one turn or more. For example, the recognition unit 110 may, on the basis of each of the amounts of curve detected from the curvature sensors 20, estimate the stereoscopic shape of the information processing device 10-3 and recognize an area that is rolled up one turn or more. Then, the control unit 115 may turn off the touch operation detection function of the area. Specifically, for example, the control unit 115 may discard the touch operation detected from the area of the flexible touch panel 16.

[0202] As described above, according to the third embodiment of the present disclosure, it is possible to, on the basis of the amount of curve detected from the curvature sensor 20, recognize a state in which the display screen is physically rolled up as an operation input and output a corresponding process command.

## 3. Conclusion

[0203] As described above, according to the first embodiment of the present disclosure, it is possible to, by recognizing a change in physical deflection of the information processing device 10-1 and outputting a corresponding process command, improve the convenience of inputting a curving operation. In addition, it is also possible to realize an intuitive operation input by outputting a process command associated with a sense of a deflection operation.

[0204] In addition, according to the second embodiment of the present disclosure, it is possible to, by arranging a plurality of curvature sensors on each side of the information processing device 10-2, extract the amount of curve and the position of the curve, and further recognize the state of curve of the information processing device 10-2 on the basis of such information. Further, according to the second embodiment, it is possible to recognize the thus recognized state of curve as an operation input and output a corresponding process command.

[0205] Furthermore, according to the third embodiment of the present disclosure, it is possible to, on the basis of the amount of curve detected from the curvature sensor 20, recognize a state in which the display screen is physically rolled up as an operation input and output a corresponding process command.

[0206] Although the preferred embodiments of the present disclosure have been described in detail with reference to the appended drawings, the present disclosure is not limited thereto. It is obvious to those skilled in the art that various modifications or variations are possible insofar as they are within the technical scope of the appended claims or the equivalents thereof. It should be understood that such modifications or variations are also within the technical scope of the present disclosure.

[0207] It should be understood by those skilled in the art that various modifications, combinations, sub-combinations and alterations may occur depending on design requirements and other factors insofar as they are within the scope of the appended claims or the equivalents thereof.

[0208] For example, in each of the aforementioned embodiments, it is also possible to perform display control of indicating a center line of curve of the flexible display 15 to give visual feedback in response to a curving operation. Specifically, in the structure in which the flexible display 15 is stacked on the curvature sensor 20, it is also possible to